THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 33

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte TSUTOMU KODAMA AND KAZUHIRO KATO

Appeal No. 96-1950
Application No. 08/099,929[1]

HEARD: December 10, 1998

Before CALVERT, COHEN, and STAAB, Administrative Patent Judges.

CALVERT, Administrative Patent Judge.

DECISION ON APPEAL

[1] Application for patent filed August 3, 1993.

This is an appeal from the final rejection of claims 1 to 9 and 11 to 13, all the claims remaining in the application.

The claims on appeal are drawn to a fuel transporting hose construction, and are reproduced in Appendix A of appellants' brief.

The references applied in the final rejection are:

Satoh et al. (Satoh)	4,330,017	May 18, 1982
Igarashi et al. (Igarashi '906)	4,942,906	Jul. 24, 1990
Nakaya et al. (Nakaya)	4,996,076	Feb. 26, 1991

Additional references applied herein in rejections pursuant to 37 CFR § 1.196(b) are:[2]

Igarashi et al. (Igarashi '647)	4,887,647	Dec. 19, 1989
Nishimura	4,984,604	Jan. 15, 1991
Green (filed Dec. 2, 1991)	5,192,476	Mar. 9, 1993

The appealed claims stand finally rejected under 35 U.S.C. § 103 as follows:

(1) Claims 1, 6 to 9, 11 and 12, unpatentable over Igarashi '906 in view of Satoh;

[2] Igarashi '647 and Nishimura are of record in the present application.

(2) Claims 2 to 5, unpatentable over Igarashi ‘906 in view of Satoh and Nishimura;

(3) Claim 13, unpatentable over Igarashi ‘906 in view of Satoh and Nakaya.

Considering first the rejection of claim 1, we do not consider that Satoh would have taught or suggested to one of ordinary skill that the hose of Igarashi ‘906 be made with the particular layer thicknesses and thickness ratios recited in claim 1. While Satoh does disclose a hose having layers of such thicknesses and ratios as would at least overlap those claimed, the inner layer of the Satoh hose is a fluorine rubber, rather than the claimed "fluorine-contained [sic: containing?] resin,"[3] the reason why Satoh uses an inner layer of 0.2 to 0.7 mm is because the patentees state that they have discovered that such a thin layer of fluorine rubber will "screen" the gasoline permeating therethrough so that it will be no longer erosive to the surrounding layer of less expensive rubber (col. 3, lines 40 to 50; col. 7, lines 23 to

[3] On December 1, 1994, appellants filed a Rule 132 Declaration by Tsutomu Kodama and copies of pages from the Rubber Handbook and Modern Plastics Encyclopedia to show the differences between fluorine rubbers and fluorine resins.

34). Since this screening effect is, according to Satoh, "specific to fluorine rubber" (col. 7, line 27) and, insofar as we are aware, not exhibited by fluorine-containing resins[4], we find no motivation in Satoh for one of ordinary skill in the art to make the fluorine-containing resin inner layer of Igarashi '906 of the same thickness as the inner layer of Satoh.

In the present case, the structure claimed by appellants differs from that disclosed in the prior art in that particular ranges of thicknesses and thickness ratios are recited. In such a situation, appellants must show that the claimed ranges

[4] Appellants represent on page 8 of their brief that "the Igarashi ['906] fuel hose which utilizes an inner fluorine resin layer has no such chemical screen effects" (original emphasis).

are critical, see In re Woodruff, 919, F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and we consider that they have done so. The examiner argues that appellants have merely used routine skill to discover the optimum or workable range of thicknesses to produce a hose having flexibility, bendability and endurance to vibrations. However, we do not believe that appellants' experimental data[5] can be characterized as the discovery of optimum ranges (In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955)), because there is no teaching in the prior art references (Igarashi '906 and Satoh) that the variables here involved, i.e., layer thickness and thickness ratios, are "known to be result effective." See In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). In order for a claimed parameter to be deemed the result of obvious experimentation, any such experimentation must have come from within the teachings of the art. In re Waymouth, 499 F.2d 1273, 1276, 182 USPQ 290,

[5] The data in question are those contained in the Rule 132 Declaration of Tsutomu Kodama, filed April 11, 1994 (Paper No. 7).

292 (CCPA 1974). Igarashi '906 and Satoh contain no such teachings.

Accordingly, the rejection of claim 1, and of claims 6 to 9, 11 and 12 dependent thereon, will not be sustained.

The Nishimura and Nakaya references, additionally applied in rejections (2) and (3), do not supply the deficiencies noted with regard to Igarashi ‘906 and Satoh. We also note that, in any event, the addition of Nakaya would not render claim 13 unpatentable because we do not consider that Nakaya’s disclosure of the use of corona discharge or plasma treatment to convert a plastic surface to hydrophilic so that it will adhere to an aqueous coating composition would teach one of ordinary skill to so treat the surface of the Igarashi ‘906 inner layer la in order to enhance the adhesion of intermediate rubber layer 1b. The rejections of claims 2 to 5 and 13 will therefore also not be sustained.

Rejections Pursuant to 37 CFR § 1.196(b)

The following rejections are made pursuant to 37 CFR § 1.196(b):

(A) Claims 1, 6, 7 and 9 are rejected as anticipated by Igarashi ‘647 under 35 U.S.C. § 102(b). In col. 5, Table 4, Igarashi ‘647 discloses Comparative Example 2, a fuel hose having a 0.1 mm thick inner layer ("inside layer") of the fluorine-containing resin, FEP; a 1.6 mm thick intermediate layer ("outside layer") of "N" (acrylonitrile-butadiene rubber

(NBR)); a reinforcing textile layer (col. 5, line 37); and a

1.0 mm thick outer layer

("outer tube rubber layer") of "C" (epichlorohydrin rubber (ECO)). The thicknesses of the disclosed layers, and the thickness ratios (1:16 and 1:10, respectively) are within the ranges recited in claim 1.

(B) Claims 2 to 5 are rejected under 35 U.S.C. § 103 as unpatentable over Igarashi ‘647 in view of Green, which discloses a fuel transporting hose having an inner layer (liner) 16 of FEP (col. 3, lines 46 to 49). In order to prevent the build up of electrical charges in the liner 16 due to fluid flow, Green teaches that the liner may contain carbon black throughout (col. 6, lines 54 to 57), in view of which teaching one of ordinary skill would have been motivated to incorporate carbon black in the inner layer of the Igarashi ‘647 hose. The resistivity and concentration of additive recited in claims 3 and 4 would be obvious matters of choice, selected to achieve the desirable result taught by Green.

(C) Claim 8 is rejected under 35 U.S.C. § 103 as unpatentable over Igarashi ‘647 in view of Igarashi ‘906. To select one of the particular recited fibers for the reinforcing textile layer of Igarashi ‘647, and to form said layer by braiding or spiraling, would have been obvious to one of ordinary skill in

view of the disclosure of Igarashi ‘906 at col. 7, lines 24 to 27, that such materials and manners of formation are conventional in a fuel transporting line.

(D) Claim 12 is rejected under 35 U.S.C. § 103 as unpatentable over Igarashi ‘647 in view of Nishimura. In view of the disclosure of Nishimura that adhesive may be applied to an inner
layer 1a of a fuel transporting hose prior to extrusion of the next layer 1b thereover (col. 4, lines 36 and 37), it would have been obvious to one of ordinary skill to apply adhesive over the inner layer of the Igarashi ‘647 hose prior to extrusion of the intermediate layer, this providing the obvious benefit of additional adhesive strength between the layers.

Conclusion

The examiner’s decision to reject claims 1 to 9 and 11 to 13 is reversed. Claims 1 to 9 and 12 are rejected pursuant to 37 CFR § 1.196(b).

This decision contains new grounds of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203

Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)).

37 CFR

§ 1.196(b) provides that "[a] new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new grounds of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

> (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .
>
> (2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136 (a).

REVERSED; 37 CFR § 1.196(b)

IAN A. CALVERT Administrative Patent Judge	)
IRWIN CHARLES COHEN Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
LAWRENCE J. STAAB Administrative Patent Judge	)

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Appeal No. 96-1950
Application No. 08/099,929

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Appeal No. 96-1950
Application No. 08/099,929

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REVERSED; 1.196(b)

Prepared: July 25, 2000